

**Quarterly Progress Report
January - March 1995
Boise, Idaho**

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3/30/95

Prepared for

Van Waters & Rogers Inc.
6100 Carillon Point
Kirkland, Washington 98033

HLA Project No. 30985 03

S Michelle Beekman

S. Michelle Beekman
Senior Geologist

Christopher R. Smith

Christopher R. Smith, P.G. 736
Principal Hydrogeologist

March 30, 1995



Harding Lawson Associates
Engineering and Environmental Services
105 Digital Drive, P.O. Box 6107
Novato, California 94948 - (415) 883-0112



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DISTRIBUTION

EXECUTIVE SUMMARY

This progress report presents data collected and summarizes activities performed in association with ongoing investigations by VW&R in Boise, Idaho, from December 23, 1994, through March 28, 1995. Activities to be conducted during the next reporting period are also presented.

Activities conducted under the Water Supply Order during the reporting period include:

- Connecting residents to the United Water Corporation (UWC; formerly the Boise Water Corporation) water system as authorization is received by VW&R
- Conducting quarterly sampling
- Scheduling sampling and evaluation of wells where authorization was received
- Conducting confirmation sampling of one well.

Work planned for the next reporting period includes:

- Sampling wells with tetrachloroethylene (PCE) concentrations above the analytical detection limit but below 5 micrograms per liter ($\mu\text{g/l}$) and other selected wells in the Preliminary Study Area, (PSA) as part of a quarterly sampling program
- Continuing water line connections as authorizations are received and reimbursement for 1 year of UWC utility costs
- Continuing to evaluate well evaluation responses received from residents and follow up on unreturned forms
- Conduct well evaluation activities and continue pursuit of access to other wells targeted for evaluation within the Affected Area.

Activities conducted under the PSA Order during the reporting period include:

- Sampling the monitoring well at 2212 N. Sunrise Avenue
- Monitoring the transducer and data logger installed in the Sunrise Well
- Submitting the draft and final Phase I PSA Site Investigation (SI) Reports
- Responding to comments received from the Department on the draft PSA SI report
- Submitting the draft and final Phase II Work Plan
- Identification of property owners within or adjacent to Area 3A from which access must be obtained to conduct the Phase II investigation
- Initiating the geophysical survey associated with the Phase II investigative activities
- Continuing access negotiations for siting one monitoring well and a groundwater treatment system.

Activities to be conducted under the PSA Order during the next reporting period include:

- Install one monitoring/extraction well along N. Five Mile Road in accordance with the Soil Boring SAP
- Install two groundwater monitoring wells in accordance with the Interim Remedial Measures Work Plan
- Conduct field activities in accordance with the Phase II Work Plan

- Continue work on the PSA Risk Assessment.

Work conducted under the Mall Order during the reporting period included:

- Responding to comments received from the Department and the City of Boise on the Final Draft Site Investigation Report/Remedial Action Plan
- Submitting the Final Mall Site Investigation Report/Remedial Action Plan
- Submitting a draft and final Well Installation and Aquifer Testing Work Plan
- Negotiating access for installation of extraction and monitoring wells and conducting the aquifer testing program
- Negotiating access for construction of the groundwater treatment system

- Monitoring the soil vapor extraction system in accordance with permit requirements

- Collected air samples from the vapor monitoring wells and SVE inlet and outlet sampling ports for VOC analysis.

Work planned for the next reporting period in association with the Mall Order includes:

- Monitoring the soil vapor extraction system
- Continue negotiations related to siting a groundwater treatment system at the mall
- Conduct activities described in the Well Installation and Aquifer Testing Work Plan when access is granted by Price Development Company.

1.0 INTRODUCTION

This progress report presents data collected and summarizes activities performed in association with ongoing Van Waters & Rogers Inc. (VW&R) investigations in Boise, Idaho, from December 24, 1994, through March 28, 1995.

This progress report has been prepared by Harding Lawson Associates (HLA) for the sole use of VW&R and the State of Idaho Department of Health and Welfare, Division of Environmental Quality (Department), the only intended beneficiaries of our work. No other party should rely on the information contained herein without prior written consent of HLA.

This report has been prepared to meet the requirements of the Consent Orders dated October 9, 1992 (Boise Mall and Preliminary Study Area [PSA] Orders), between VW&R and the Department. The scope of work for this report was originally outlined in *Exhibit 3, Work Plan, Boise Town Square Mall Supplemental Investigation and Final Remediation, Boise, Idaho (HLA, 1992a)*. This report presents a summary of activities conducted during the reporting period and activities to be conducted during the next reporting period associated with the Water Supply Order dated January 3, 1992, and the PSA and Boise Mall Orders.

2.0 WATER SUPPLY ORDER

2.1 Work Conducted During the Reporting Period

Activities conducted under the Water Supply Order (WSO) during the reporting period included:

- Connecting residents to the United Water Corporation (UWC; formerly the Boise Water Corporation) water system as authorization is received by VW&R
- Conducting quarterly sampling of wells historically containing tetrachloroethylene (PCE) above the analytical detection limit but below the EPA's maximum contaminant level (MCL) of 5 micrograms per liter ($\mu\text{g/l}$) and other select wells
- Following up on the well data survey form and authorization request to residents within the Affected Area to conduct investigative activities and collect water samples from domestic wells having unknown depths or depths greater than 75 feet
- Coordinating with the United Water Corporation regarding receipt of equipment for evaluation of unknown depth and deep wells within the Affected Area
- Conducting confirmation sampling of one well that contained low concentrations of PCE during the February quarterly sampling round. This well has historically never contained PCE.

2.1.1 Quarterly Sampling

In accordance with requirements of the WSO, wells containing PCE concentrations above the analytical detection limit but below the MCL of 5 $\mu\text{g/l}$ and other selected indicator wells were sampled to monitor the dissolved PCE concentration in groundwater. Groundwater sampling was conducted on February 15, 1995. Prior to sampling, authorization was obtained from well owners to collect samples from their

wells. Two wells normally sampled as part of the regular quarterly monitoring program were not sampled due to an inoperative pump at one location and due to shut off of the irrigation system at the other. Additionally, the monitoring well at 2212 N. Sunrise Avenue was sampled (see Section 3.1.3).

Sample collection activities were performed in accordance with the Quality Assurance Project Plan (QAPP) and are described in the following sections (HLA, 1992b). The sampling method used to collect groundwater samples from the private wells was a function of well construction and access. In general, wells were purged with their installed pumps for a minimum of 5 minutes and until the pH, temperature, and conductivity readings stabilized. Following purging activities, groundwater samples were collected from the discharge line at the access point closest to each well. All samples were placed in sample containers appropriate for the required analysis. All samples were placed in a cooler that was chilled to a temperature of approximately 4 degrees Celsius and sent under chain of custody via overnight courier to Analytical Technologies, Inc. (ATI), Renton, Washington.

Duplicate samples were collected from 1 well and laboratory-prepared trip blanks were shipped in the coolers along with the well samples to the analytical laboratory.

All samples were analyzed by ATI for halogenated volatile organic compounds (VOCs) using EPA Test Method 8010. Specific analytical results obtained from private well samples are confidential. Two samples collected from an indicator well contained PCE at concentrations up to 210 $\mu\text{g/l}$ which is greater than the EPA's MCL of 5 $\mu\text{g/l}$. The concentrations detected in the indicator well correspond to concentrations previously detected. One additional sample

contained PCE at a concentration of 7.1 $\mu\text{g/l}$ which is also above the MCL. PCE was detected in 7 of 8 samples from other wells at concentrations up to 1.7 $\mu\text{g/l}$ which is below the MCL. One well where PCE had previously never been detected contained PCE during this sampling round at a concentration of 1.3 $\mu\text{g/l}$. This well was subsequently resampled in March 1995; the results are presented in Section 2.1.3. Trichloroethene (TCE) was detected in two well samples at concentrations of 1.1 $\mu\text{g/l}$ and 1.2 $\mu\text{g/l}$. The concentration of TCE detected at this location corresponds to previously detected concentrations.

1,1,1-Trichloroethane (1,1,1-TCA) was detected in one well sample at a concentration of 0.3 $\mu\text{g/l}$, which corresponds to previously detected 1,1,1-TCA concentrations in this well.

Trihalomethanes including bromodichloromethane, bromoform, chloroform, and dibromochloromethane were detected in one well sample at concentrations up to 1.4 $\mu\text{g/l}$. These compounds have not been previously detected in this well and may be the result of local well chlorination. Trichlorofluoromethane was detected at a concentration of 0.9 $\mu\text{g/l}$ in one well in which trichlorofluoromethane is routinely detected. Halogenated VOCs were not detected in the trip blank.

Evaluation of quality assurance/quality control data indicated that the data are accurate and precise (Table 1). The data also met the method-specified holding times. Overall completeness was 100 percent and exceeds the goals specified in the QAPP (HLA, 1992b).

The individual results of the sample analyses have been provided under separate cover to each of the respective well owners.

2.1.2 Well Evaluation and Sampling Request

VW&R and HLA are in the process of scheduling sampling of wells whose owners have provided verbal or written approval to VW&R. In addition, the names of the ten owners/residents who could not be contacted have been provided to VW&R's local counsel to identify the current owner's address and phone number. These owners will be contacted to request authorization to evaluate

their wells. VW&R is also scheduling United Water Corporation and coordinating with the well owners to evaluate deep or unknown depth wells using geophysical equipment acquired by UWC on March 24, 1995.

2.1.3 Confirmation Sampling

PCE was detected at a concentration of 1.3 $\mu\text{g/l}$ during the most recent sampling round in one well that historically has not contained PCE. To confirm these sampling results, additional samples were collected from the well on March 9, 1995. The samples were collected using the procedures described in Section 2.1.1. A sample, duplicate sample, and trip blank were collected and sent to ATI, Renton, Washington. A separate sample, duplicate sample, and trip blank were collected and sent to Alchem Laboratories, Boise, Idaho. All samples were analyzed for halogenated VOCs using EPA Test Method 8010. None of the samples contained PCE or any other halogenated VOCs. The PCE detected during the February sampling event was likely due to sampling or laboratory error. Evaluation of the QA/QC data indicate that the data are accurate and precise (Table 2). All data met specified holding times. Overall completeness was 100 percent and exceeds the goals specified in the QAPP.

2.2 Work Planned for Next Reporting Period

Wells with concentrations of PCE above the analytical detection limit but below the MCL of 5 $\mu\text{g/l}$ and other selected wells will continue to be sampled on a quarterly basis. Sampling activities for the second quarter of 1995 are currently scheduled for mid-May.

Activities relating to well evaluation associated with the WSO will continue during the next quarter. Followup enquiries will be made to 10 residents who have not responded to, or could not be contacted about, the well evaluation and sampling form. Groundwater samples will be collected from wells where authorization has been granted. Evaluation of well construction

details and hydrogeologic characteristics will also begin.

Connections to water mains will continue during the next reporting period until all connections are completed for properties whose owners have provided written authorization to VW&R. To

date, over 100 properties have been connected to UWC water. Many of the properties connected contain numerous individual residences (e.g. trailers). Reimbursement for 1 year of UWC water utility costs continues for west Boise residents as requests are received by VW&R.

3.0 PRELIMINARY STUDY AREA ORDER

3.1 Work Conducted During the Reporting Period

Activities conducted under the Preliminary Study Area (PSA) Order during the reporting period included:

- Submitting the draft and final Phase I PSA Site Investigation (SI) Reports
- Responding to comments received from the Department on the draft PSA SI Report
- Submitting the draft and final Phase II Work Plan
- Sampling the monitoring well at 2212 N. Sunrise Avenue
- Monitoring the transducer and data logger installed in the Sunrise Well
- Identification of property owners within or adjacent to Area 3A from which access must be obtained to conduct the Phase II investigation
- Initiating the geophysical survey associated with the Phase II investigative activities
- Continuing access negotiations with property owners for the installation of one monitoring well and siting a groundwater treatment system.

3.1.1 Phase I PSA Site Investigation Report

The draft Phase I PSA Site Investigation Report was submitted to the Department on January 26, 1995. Comments on the draft report were received from the Department on February 15, 1995. Comments were addressed and the final report was submitted on March 7, 1995. The final report was approved by the Department in a letter dated March 15, 1995. The Phase I report described the results of the site investigation activities conducted in and near the Preliminary

Study Area. The report concluded that the areal extent of PCE-impacted groundwater has been defined, but that additional information is needed to further delineate the extent of Area 3A, located roughly northwest of the Westpark area and bounded by Maple Grove Road to the west and Fairview Road to the north. Area 3A is shown on Plate 1. Additional data gaps identified include the impact of the Finch Lateral on the groundwater flow system and the distribution of PCE in Area 3A, as well as the geology near the northwest boundary of Area 2. A Phase II work plan (described below) was prepared to address the identified data gaps.

3.1.2 Phase II Work Plan

A draft Phase II Work Plan was submitted to the Department on January 26, 1995, as an appendix to the Phase I Site Investigation report. No comments were received on the content of the work plan, but it was suggested that the work plan be submitted as a separate document. The final Phase II Work Plan was submitted to the Department concurrently with the final Phase I Report on March 7, 1995. The Phase II Work Plan proposed additional work to address data gaps identified during the Phase I investigation. The scope of work proposed in the work plan included (1) installation of five monitoring wells and four hydropunch borings to delineate Area 3A, (2) installation of five piezometers to collect groundwater elevation data to evaluate the impact of the Finch Lateral on the distribution of PCE in Area 3A, (3) installing three staff gauges in the Finch Lateral to collect surface water elevation data, and (4) conducting a geophysical investigation to evaluate the geology near the northwest boundary of Area 2 (Plate 1).

3.1.3 Monitoring Well Sampling

The monitoring well at 2212 N. Sunrise Avenue was sampled as part of the regularly scheduled quarterly sampling program. Prior to sampling, three well volumes of water were removed from the well using a clean PVC bailer. The well was then sampled with a stainless steel bailer following procedures described in the QAPP (HLA, 1992b). The sample was analyzed for VOCs using EPA Test Method 8010. PCE was detected in the well sample at a concentration of 0.3 $\mu\text{g/l}$ which is consistent with previous sampling rounds (concentrations have ranged from 0.3 to 0.7 $\mu\text{g/l}$). The detection level for PCE is 0.2 $\mu\text{g/l}$. In addition, chloroform was detected at the laboratory detection limit of 0.2 $\mu\text{g/l}$.

3.1.4 Sunrise Well - Water Level Monitoring

Water level data collected from the Sunrise Well during the reporting period indicate the shallow aquifer is not affected by pumping of the Bali Hai Community Well but may be recharged during the irrigation season. Water levels decreased throughout the quarter as a result of the absence of recharge from irrigation activities and subsequent draining of shallow soils (Plate 2). Evaluation of the Bali Hai Well and potential impacts on the shallow aquifer will continue.

3.1.5 Phase II Activities

The geophysical investigation proposed in the Phase II work plan was initiated on March 28, 1995, and will continue until approximately April 2, 1995. Other Phase II activities will commence when access is obtained from property owners.

3.2 Work Planned for the Next Reporting Period

Activities associated with completion of the Phase II investigation will continue. Following completion of the Phase II field activities, the PSA Risk Assessment will be completed.

Access has been obtained for installation of the northernmost monitoring/extraction well along N. Five Mile Road in accordance with the PSA Soil Boring SAP (HLA, 1993b). Two additional groundwater monitoring wells will be installed along N. Five Mile Road as part of the IRM Work Plan. Groundwater samples will be collected from all four of the monitoring wells associated with the IRM Work Plan and the monitoring/extraction well. These wells will be used to monitor the effectiveness of the interim remedial measures to be implemented in the N. Five Mile Road area as soon as access and permitting issues are resolved. Drilling was originally scheduled for January 1995, but has been postponed at the driller's request due to weather delays (i.e., the ground is too soft and muddy for rig access). Access negotiations for installation of the treatment system will continue.

4.0 BOISE MALL ORDER

4.1 Work Conducted During the Reporting Period

The following activities were conducted during the reporting period:

- Responded to comments received from the Department and the City of Boise on the Final Draft Site Investigation Report/Remedial Action Plan.
- Submitted the Final Mall Site Investigation Report/Remedial Action Plan
- Submitted a draft and final Well Installation and Aquifer Testing Work Plan
- Negotiated access for installation of extraction and monitoring wells and conducting the aquifer testing program
- Negotiated access for construction of the groundwater treatment system
- Monitoring the soil vapor extraction system and collecting air samples in accordance with permit requirements
- Collected air samples from the vapor monitoring wells and SVE inlet and outlet sampling ports for VOC analysis.

4.1.1 Response to Comments on Mall SI/RAP

Comments on the Final Draft Mall Site Investigation Report/Remedial Action Plan (SI/RAP) were received in letters from the Department dated December 22, 1994, and from the City of Boise dated December 7, 1994. A draft response to comments letter was prepared by HLA on behalf of VW&R and submitted to the Department. The Department verbally approved the draft response letter and a final letter was prepared on January 27, 1995, that was included in Appendix E of the final SI/RAP. The comments were incorporated, as appropriate, and

the Final Mall SI/RAP was submitted to the Department on January 27, 1995.

4.1.2 Mall Site Investigation Report/Remedial Action Plan

The Final Mall Site Investigation Report/Remedial Action Plan (SI/RAP) was submitted to the Department on January 27, 1995. The purpose of the SI was to assess the nature and extent of VOCs in soil, soil gas, and groundwater; identify potential migration pathways and potential receptors; and evaluate the potential risk to human health and the environment. Conclusions of the SI/RAP are as follows:

- Soil above the water table is no longer considered to be a source of PCE at the site and, therefore, will not require any additional remediation.
- Dissolved PCE is present in the upper 100 feet below ground surface in the immediate vicinity of the former PCE aboveground storage tank (AST), and the upper 75 feet below ground surface downgradient of the former PCE AST.
- The Risk Assessment concluded that remediation of the groundwater is not necessary to protect human health or the environment with respect to the complete exposure pathways identified for the site. Groundwater remediation will commence, nonetheless, to prevent migration of VOCs downgradient of locations where other types of exposure may occur to human and/or ecological receptors.

The purpose of the remedial action plan was to develop remedial goals; identify, screen, and evaluate remedial technologies considered applicable to the site-specific conditions; and develop appropriate remedial alternatives.

The evaluation of remedial alternatives showed that air sparging and vapor extraction coupled with groundwater extraction and treatment using either carbonaceous adsorbent or air stripping would be effective in the long term, implementable, reduce potential excess risk to downgradient receptors and comply with applicable or relevant and appropriate requirements (ARARs) for groundwater.

4.1.3 Well Installation and Aquifer Testing Work Plan

A Draft Well Installation and Aquifer Testing Work Plan was submitted to the Department on February 22, 1995. Comments were received from the Department in a letter dated March 1, 1995. Department comments were incorporated and a Final Work Plan submitted on March 6, 1995. The Final Work Plan was approved by the Department on March 15, 1995.

The scope of work proposed in the Work Plan included installing one extraction well at the Mall downgradient of the existing extraction well, installing two monitoring wells, conducting an aquifer testing program, and evaluating the data. The results will be used to design the groundwater extraction and treatment system for remediation of PCE-containing groundwater at the Mall. The results and recommendations for additional wells, as appropriate, will be reported in the Remedial Action Implementation and Monitoring Plan for the Mall.

4.1.4 Soil Vapor Extraction System

The soil vapor extraction (SVE) system operated continuously between February and March 1995, with the exception of days the system was shut down to replace spent carbon and conduct maintenance. The SVE system was not operated during January and early February due to broken drive belts and a faulty drive motor. The motor and belts were replaced and the system put back into service on February 16, 1995. Air samples were collected from the three vapor monitoring wells and the SVE inlet and outlet sampling ports in February 1995, and analyzed for VOCs. Results of this sampling were provided to the permits and enforcement section of the

Department and indicate the system is being operated within the emission standards specified in the permit. Compounds detected in the inlet sample include PCE at 160 $\mu\text{g/l}$ and TCE at 0.035 $\mu\text{g/l}$. PCE and toluene were detected in the outlet sample at concentrations of 0.072 and 0.086 $\mu\text{g/l}$, respectively.

Dichloromethane, tetrachloroethylene, and toluene were detected in the air sample from vapor monitoring Well VM-1 at concentrations of 0.47, 1.6, and 0.088 $\mu\text{g/l}$, respectively. PCE and toluene were detected in the vapor well VM-2 at concentrations of 0.17 and 0.80 $\mu\text{g/l}$, respectively. The sample collected from VM-3 was not analyzed because the tedlar bag containing the sample was deflated upon its arrival at the laboratory.

To date, over 1700 pounds of PCE have been removed from the subsurface. Daily measurements of the total VOC concentrations in the influent, effluent, mid-stream, and in the vapor monitoring wells continue to be made while the system is operating. These measurements are made using an Organic Vapor Meter (OVM) calibrated to a 100 ppm isobutylene standard. Influent concentrations have typically been less than 5 parts per million which would further support the previous conclusion that the soil in the vicinity of the former above ground PCE tank has been remediated. Cyclic operation of the SVE system is being evaluated.

4.2 Work Planned for the Next Reporting Period

The SVE system will be operated as designed and as specified in the operating permit. Activities proposed in the Well Installation and Aquifer Testing Work Plan will be conducted when access is granted from Price Development Company. VW&R will continue efforts to gain access to property to site a groundwater treatment system.

5.0 SCHEDULE

Revised schedules for the Mall, PSA, and WSO
Order activities are shown in Tables 3 through 5.

The dates for completion of activities are
estimated and are dependent on property
access and subcontractor availability.

6.0 REFERENCES

Harding Lawson Associates, 1991. *Soil Boring Investigation, Former VW&R Facility, Boise, Idaho.* December 19.

_____, 1992a. *Exhibit 3, Work Plan, Boise Town Square Mall Supplemental Investigation and Final Remediation, Boise, Idaho.* September 8.

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_____, 1993a. *Affected Area, Boise Idaho.* Letter to Ron Lane, Idaho Department of Health and Welfare, Division of Environmental Quality. March 24.

_____, 1993b. *Soil Boring Sampling and Analysis Plan, Preliminary Study Area, Boise, Idaho.* August 13.

_____, 1994. *Final Draft Site Investigation/Remedial Action Plan, Boise Towne Square Mall, Boise, Idaho.* November 2.

_____, 1995a. *Draft Phase I Site Investigation Report, Preliminary Study Area, Boise, Idaho.* January 26.

_____, 1995b. *Final Site Investigation Report/Remedial Action Plan, Boise Towne Square Mall, Boise, Idaho.* January 27.

_____, 1995c. *Draft Well Installation and Aquifer Testing Work Plan, Boise Towne Square Mall, Boise, Idaho.* February 22.

_____, 1995d. *Final Phase I Site Investigation Report, Preliminary Study Area, Boise, Idaho.* March 7.

_____, 1995e. *Final Well Installation and Aquifer Testing Work Plan, Boise Towne Square Mall, Boise, Idaho.* March 7.

_____, 1995f. *Phase II Work Plan, Preliminary Study Area, Boise, Idaho.* March 7.



TABLES

**Table 1. Quality Assurance Summary, Quarterly Sampling
Quarterly Progress Report
January-March 1995**

Quality Control Sample	Acceptance Criterion ¹	Number of Analyses	Number of Analyses Within Acceptance Criterion	Percent of Analyses Within Acceptance
<u>FIELD</u>				
Trip blank	No compounds detected	29	29	100%
Field duplicate	100% RPD	29	29	100%
<u>LABORATORY</u>				
Method Blank	No compounds detected	87	87	100%
Matrix Spike	60-150%	12	12	100%
Matrix Spike duplicate	60-150%	3	3	100%
Surrogate Spike recovery	70-130%	20	20	100%
Surrogate Spike recovery duplicate	70-130%	1	1	100%

Overall Completeness: 181/181

¹ Acceptance criterion specified in the QAPP (HLA, 1992b).

**Table 2. Quality Assurance Summary, Confirmation Sampling
Quarterly Progress Report
January-March 1995**

Quality Control Sample	Acceptance Criterion ¹	Number of Analyses	Number of Analyses Within Acceptance Criterion	Percent of Analyses Within Acceptance
<u>FIELD</u>				
Trip blank	No compounds detected	67	67	100%
Field duplicate	100% RPD	67	67	100%
<u>LABORATORY</u>				
Method Blank	No compounds detected	29	29	100%
Matrix Spike	60-150%	6	6	100%
Matrix Spike duplicate	60-150%	6	6	100%
Surrogate Spike recovery	70-130%	6	6	100%
Surrogate Spike recovery duplicate	70-130%	2	2	100%

Overall Completeness: 183/183

1 Acceptance criterion specified in the QAPP (HLA, 1992b).

Table 3. Boise Mall Order Schedule

Activity	Schedule Dependency	Estimated Start Date	Estimated Completion Date	Comments
Draft Mall SI/RAP		27-Jul-94	27-Jul-94	Actual submittal on 27-Jul-94 TASK COMPLETE
Draft Final Mall SI/RAP		2-Sep-94	3-Nov-94	Actual submittal on 2-Nov-94 TASK COMPLETE
Public Comment Period		9-Nov-94	9-Dec-94	TASK COMPLETE
Response to Public Comments		30-Dec-94	12-Jan-95	Department letter received 29-Dec-94; Response to Comments letter dated 12-Jan-95 TASK COMPLETE
Final Mall SI/RAP		27-Jan-95	31-Jan-95	Verbal approval of Response to Comments letter 27-Jan-95 Final Report 27-Jan-95 Final DEQ approval 15-Feb-95 TASK COMPLETE
Monitoring Well Installation and Aquifer Testing Work Plan				TASK COMPLETE
Draft Remedial Action Implementation Monitoring Plan (RAIM Plan)	45 days after Final Mall SI/RAP approval received from IDEQ and pilot tests described in RAP are completed	15-May-95	29-Jun-95	Dependent on access from Price (See note 3 below)
Final RAIM Plan	14 days after Department approval of Draft RAIM Plan	31-Jul-95	11-Aug-95	Assumes 30-day IDEQ review and approval period
Implement Remedial Action	Within the time frame set forth in the RAIM Plan			

Notes:

1. Assumes a 30-day approval process by IDEQ
2. Actual dates will be updated on a quarterly basis as the task date approaches
3. Assumes access received from Price Development by 30-Apr-95

Table 4 PSA Order Schedule

Activity	Schedule Dependency	Estimated Start Date	Estimated Completion Date	Comments
Complete Soil Boring SAP field program (install extraction/monitoring wells on Five Mile Rd)	Access agreements and subcontractor availability	6-Jul-94	31-Jul-94	TASK COMPLETE (4)
Geophysical Sampling and Analysis Plan		25-Oct-94	10/25/94	Actual submittal date TASK COMPLETE
Geophysical Field Work		23-Nov-94	23-Nov-94	No geophysical field work required
Phase II Site Investigation/Report		31-Jan-95	26-Jan-95 (draft) 7-Mar-95 (final)	TASK COMPLETE Final DEQ approval 15-Mar-95
Phase II Work Plan		31-Jan-95	26-Jan-95 (draft) 7-Mar-95 (final)	TASK COMPLETE Final DEQ approval 15-Mar-95
Phase II Field Work	Begins 2 weeks after IDEQ approval of Phase II Work Plan	29-Mar-95	30-May-95	Geophysical investigation scheduled week of 3/27/95 Well drilling dependent on access
Phase II Report	4 weeks after receipt of all final laboratory data from field program	26-Jun-95	26-Jun-95	
Risk Assessment	Concurrent with Phase II Report Submittal	26-Jun-95	26-Jun-95	
Remedial Action Plan	10 weeks after IDEQ approval of Phase II Report	6-Oct-95	6-Oct-95	
Public Comment Period	Begins with IDEQ approval of RAP			

Notes:

1. Assumes a 30-day approval process by IDEQ
2. Dependent on field conditions and subcontractor availability
3. Actual dates will be updated on a quarterly basis as the task date approaches
4. Considered complete for scheduling purposes. Last wells to be installed April 95.
Following sampling, letter report will be prepared.

Table 5 Water Supply Order Schedule

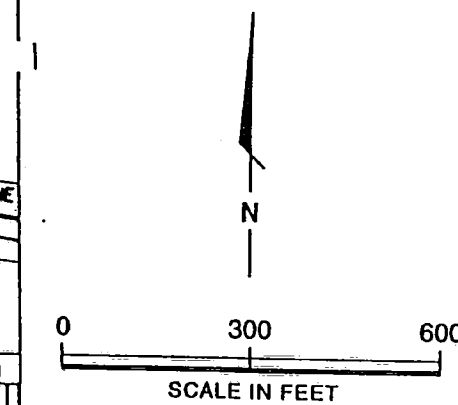
Activity	Schedule Dependency	Estimated Start Date	Estimated Completion Date	Comments
Send out letter to residents		25-Jul-94	29-Jul-94	TASK COMPLETE
Response from residents		1-Aug-94	30-Sep-94	TASK COMPLETE
Follow up on survey		1-Oct-94	31-Oct-94	TASK COMPLETE
Well Evaluation	Boise Water Corp. availability	26-Sep-94	26-May-95	
PSA RA Complete	Concurrent with Phase II Report	26-Jun-95	26-Jun-95	Dependent on PSA field schedule
Options Letter to IDEQ/ approval of recommended actions	Following approval of PSA RA	25-Jul-95	25-Aug-95	Estimate 3 to 4 weeks after completion of PSA RA
Implement options	Dependent on approval from IDEQ			Implement within 30 days of IDEQ approval

Notes:

1. Activities tied to flow chart for WSO activities
2. Assumes a 30-day review and approval process by IDEQ
3. Dependent on subcontractor and BWC availability
4. Actual dates will be updated on a quarterly basis as the task date approaches
5. Evaluation of options will commence upon completion of evaluation of wells and PSA RA.

PLATES

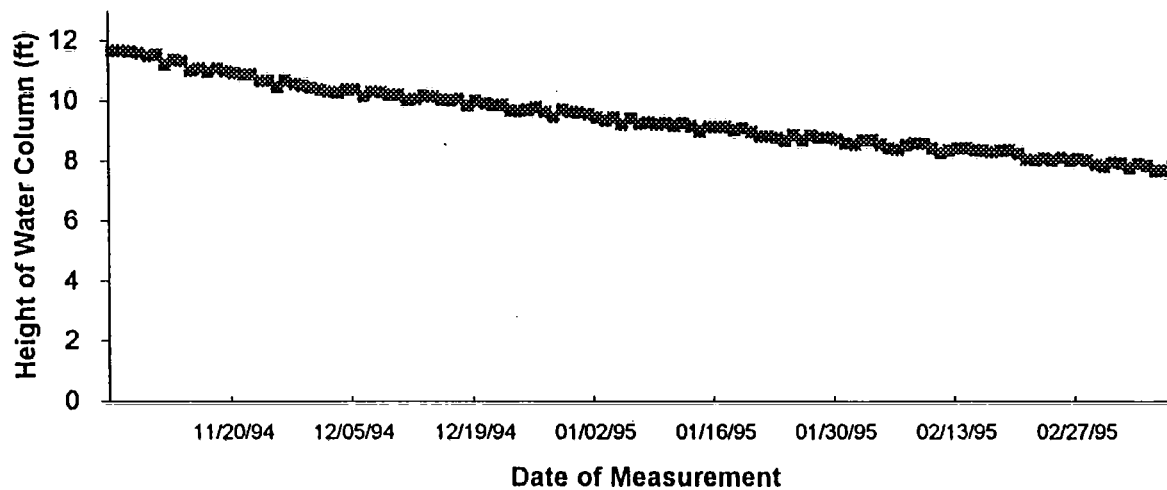
- Affected Areas Boundary (PCE Concentration 5µg/l Contour)
- Well Sampled During Phase I
- Phase I Surface Water Sampling Location
- Proposed Boring and Hydropunch Sampling Location
- Proposed Monitoring Well Location
- Proposed Piezometer Location
- Proposed Geophysical Investigation Transect Line



1

REVISÉ DATE

Height of Water Column Above Transducer
Van Waters & Rogers Sunrise Monitoring Well



Harding Lawson Associates
Engineering and
Environmental Services

Water Level Hydrograph for Sunrise Well
January - March 1995 Quarterly Report
Van Waters & Rogers Inc.
Boise, Idaho

PLATE

2

DRAWN

JOB NUMBER
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*Sm*DATE
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Boise, Idaho

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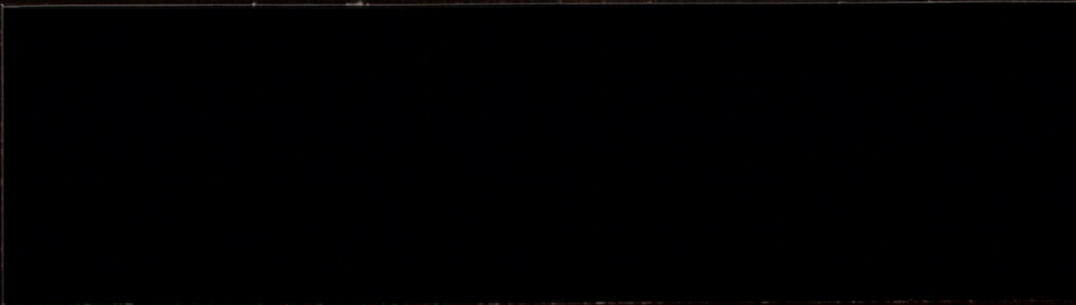
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